

REMARKS

Status of the Invention.

The present invention relates to novel improved protein mutants which produce low allergenic response in humans compared to the parent of that mutant. Specifically, the present invention comprises neutralizing or reducing the ability of T-cells to recognize epitopes and thus prevent sensitization of an individual to the proteins. In one embodiment, the mutation comprises single amino acid changes, In another embodiment, the mutation consists of a fusion protein of two homologous proteins.

Status of the Application.

Claims 1 through 28 are pending in this application with claims 3 and 6 being cancelled and claims 1 and 14 being amended with entry of this Amendment. Applicants hereby elect Invention I, Group A for further prosecution. The amendment to claim 1 merely incorporates the subject matter of claim 6 and the amendment to claim 14 changes its dependency to claim 1. Neither of these amendments add new matter.

Status of the Sequence Listing.

A corrected Sequence Listing, in a computer-readable format and a paper copy, along with a statement of sameness accompany this paper.

In light of the above remarks, the Applicants believe the pending claims are in condition for allowance and issuance of a formal Notice of Allowance at an early date is respectfully requested. If a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (650) 846-7609.

Respectfully submitted


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APPENDIX I (Pending claims after entry of this Amendment with deletions and additions)

1. A variant of a polypeptide of interest, wherein said polypeptide of interest is selected from the group consisting of a cellulase, lipase, endoglucosidase H, carbohydrase, reductase, oxidase, isomerase, transferase, kinase, phosphatase, and a protease, and said polypeptide of interest comprises [comprising] a T-cell epitope, wherein said variant differs from said polypeptide of interest by having an altered T-cell epitope such that said variant and said polypeptide produce a different immunogenic response[s] in an individual.
2. The variant of claim 1, wherein said immunogenic response produced by said variant is less than said immunogenic response produced by said polypeptide of interest.
3. The variant of claim 1, wherein said immunogenic response produced by said variant is greater than said immunogenic response produced by said polypeptide of interest.
4. (Cancelled)
5. The variant of claim 1, wherein said polypeptide of interest is not recognized by said individual as endogenous to said individual.
6. Cancelled)
7. The variant of claim 1, wherein said T-cell epitope is altered with amino acid substitutions.
8. The variant of claim 1 wherein said T-cell epitope is altered by having a terminal portion of said polypeptide of interest comprising said T-cell epitope replaced with a corresponding terminal portion of a homolog of said polypeptide of interest wherein said homolog does not comprise a T-cell cell epitope identical to said replaced T-cell epitope.
9. The variant of claim 8 wherein said variant comprises at least one less T-cell epitope than said polypeptide of interest and said homolog combined.
10. The variant of claim 8 wherein said variant comprises at least two less T-cell epitopes than said polypeptide of interest and said homolog combined.
14. A cleaning composition, an animal feed composition, or a composition for treating a textile comprising the variant of claim [6] 1.
15. (Cancelled)